



Australian Government

PMAOPS321 Undertake well management

Release: 1

PMAOPS321 Undertake well management

Modification History

Release 1. Supersedes and is equivalent to PMAOPS321B Undertake well management

Application

This unit of competency covers the skills and knowledge required to operate and manage wells and ancillary equipment.

This unit of competency applies to operations technicians who are required to demonstrate a significant understanding of the process and the equipment operation in order to make adjustments to the performance of well equipment, identify and rectify operational problems, liaise and communicate with relevant stakeholders, transfer product and maintain required records.

This unit of competency applies to well systems, including:

- onshore and offshore production facilities
- oil or gas production sites.

This unit of competency includes all such items of equipment and unit operations which form part of the production/processing system. A unit comprises two or more components of plant/equipment that are operated together to produce product, including as appropriate to the facility:

- valves, including non-return valves
- pumps
- prime movers
- product separation units
- instrumentation
- testing equipment
- hydraulic power units.

This unit of competency applies to an individual operating independently in a plant with local control or in liaison with the control room operator in a plant with a centralised control panel, such as distributed control system (DCS) type controls. In the case of large complex plant, the operations technician would be part of a team during start-up and shutdown procedures.

This unit of competency applies to an individual working alone or as part of a team or group and working in liaison with other shift team members and the control room operator, as appropriate.

This competency does not require the operation of a central control panel.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Competency Field

Operations

Unit Sector

Elements and Performance Criteria

Elements describe the essential outcomes.

Performance criteria describe the performance needed to demonstrate achievement of the element.

1	Produce oil and gas	1.1	Control and direct flows to meet demand requirements
		1.2	Utilise process control instrumentation to produce oil and gas
		1.3	Liaise with other services and contractors during the production phase
		1.4	Collect, interpret, correlate and report or communicate selected data
2	Conduct flow measurement	2.1	Apply appropriate mathematical formulae and formats to determine product volumes
		2.2	Collect and utilise appropriate production data to determine product flows
		2.3	Analyse historical data and records to monitor and determine well performance
		2.4	Calculate production figures and targets, and apply this data to all functions related to this competency
		2.5	Take action required by procedures
3	Monitor well and associated production equipment	3.1	Monitor operational condition and efficiencies of equipment
		3.2	Implement corrosion control procedures for all equipment to maintain its operating integrity
		3.3	Conduct inspections of instrumentation equipment

- 3.4 Take action required by procedures
- 3.5 Liaise with maintenance operations to determine and prioritise any required maintenance
- 4 **Transfer product**
 - 4.1 Separate products into their respective product groupings
 - 4.2 Treat all excess separation process wastewater, utilising the appropriate chemical and disposal techniques
 - 4.3 Transfer product to appropriate location for future processing or sale
 - 4.4 Maintain all well logs and records as required
 - 4.5 Monitor transfer and take action required by procedures
- 5 **Isolate and de-isolate well management equipment**
 - 5.1 Complete any required pre-start checks
 - 5.2 Start up/shut down well management equipment according to its type and duty in liaison with other personnel
 - 5.3 Start up/shut down/changeover component plant items within unit according to their type and duty in liaison with other personnel
 - 5.4 Isolate entire well management system and/or any component plant item
 - 5.5 Make safe for required work
 - 5.6 Check well management equipment/plant item is ready to be returned to service
 - 5.7 De-isolate and prepare well management equipment/plant item for return to service

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

This field allows for different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

Regulatory framework

The latest version of all legislation, regulations, industry codes of practice and Australian/international standards, or the version specified by the local regulatory authority, must be used, and include one or more of the following:

- legislative requirements, including work health and safety (WHS)
- industry codes of practice and guidelines
- environmental regulations and guidelines
- Australian and other standards
- licence and certification requirements

All operations to which this unit applies are subject to stringent health, safety and environment (HSE) requirements, which may be imposed through state/territory or federal legislation, and these must not be compromised at any time. Where there is an apparent conflict between performance criteria and HSE requirements, the HSE requirements take precedence.

Hazards

Hazards include one or more of the following:

- electricity
- gas
- gases and liquids under pressure
- structural hazards
- structural collapse
- equipment failures
- industrial (machinery, equipment and product)
- equipment or product mass
- noise, rotational equipment or vibration
- plant services (steam, condensate and cooling water)
- working at heights, in restricted or confined spaces, or in environments subjected to heat, noise, dusts or vapours
- flammability and explosivity
- hazardous products and materials
- unauthorised personnel
- sharp edges, protrusions or obstructions
- slippery surfaces, spills or leaks
- extreme weather
- other hazards that might arise

Routine problems

Routine problems include one or more of the following:

- leakage
- vibration
- loss of control of pressure and/or flow
- hydrates/blockages
- liquid slugging
- corrosion
- scale formation
- erosion

Non-routine problems

Non-routine problems are unexpected problems, or variations of previous problems and must be resolved by applying operational knowledge to develop new solutions, either individually or in collaboration with relevant experts, to:

- determine problems needing action
- determine possible fault causes
- develop solutions to problems which do not have a known solution
- follow through items initiated until final resolution has occurred
- report problems outside area of responsibility to designated person

Operational knowledge includes one or more of the following:

- procedures
- training
- technical information such as journals, engineering specifications
- remembered experience
- relevant knowledge obtained from appropriate people.

Start up/shut down

Start up shut down includes the following:

- start up and shut down to/from normal operating conditions
- start up and shut down to/from isolated, cold or empty
- start up and shut down to/from other conditions/situations experienced on the plant

Procedures

All operations must be performed in accordance with relevant procedures.

Procedures are written, verbal, visual, computer-based or in some other form,

include one or more of the following:

- emergency procedures
- work instructions
- standard operating procedures (SOPs)
- safe work method statements (SWMS)
- formulas/recipes
- batch sheets
- temporary instructions
- any similar instructions provided for the smooth running of the plant

Operate

Operate is to monitor, adjust/make change to the production unit and/or its component items to meet specifications, by one or both of the following:

- manually in the plant
- using local controller in the plant

Product

Product includes anything produced by a process step and so includes:

- intermediate products, such as the product from one process step, which then becomes the feed for another

Unit Mapping Information

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Links

MSA Training Package Implementation Guides - <http://mskills.org.au/training-packages/info/>